~~Claims~~

1. A method for determining the position of a constant frequency interval in a telecommunication signal, in particular a frequency correction burst, said method comprising the steps of:

a) receiving said telecommunication signal;

b) detecting an occurrence of said constant frequency interval in said telecommunication signal;

c) obtaining a plurality of noise-reduced signal values by a noise-reducing processing of at least a part of said constant frequency interval in sais telecommunication signal;

d) using said noise-reduced signal values for adapting a filter to the frequency of said constant frequency interval;

e) using said adapted filter to filter said telecommunication signal for generating filtered output values; and

f) determining a predefined reference point of said constant frequency interval on the basis of said filtered output values.

2. The method of claim 1, wherein said predefined reference point is one of the beginning and the end of said constant frequency interval in said telecommunication signal.

3. The method of claim 1, wherein said step f) comprises: determining peak values of said filtered output values of said adapted filter, and at least one of:

g) detecting an amplitude change of said peak values exceeding a predefined threshold, and

h) detecting a non-periodic time interval between said peak values.

4. The method of claims 1, wherein said filter is a FIR bandpass filter whose filter coefficients are at least some of said noise-reduced signal values.

5. The method of claim 4, wherein said filter coefficients of said filter are chosen to be a consecutive sequence of said noise-reduced signal values representing essentially an integral number of full cycles of said noise-reduced signal values.

6. The method of claims 1, wherein each noise-reduced signal value is an auto-correlation value or a cross-correlation value between a first and a second section of said telecommunication signal, said first and said second section being displaced by a varying displacement.

7. The method of claim 6, wherein said occurrence of said constant frequency interval in said telecommunication signal is detected on the basis of said noise-reduced signal values.

8. The method of claims 1, wherein said telecommunication signal is a wireless mobile telephony signal and preferably a GSM baseband signal.

9. An apparatus for determining the position of a constant frequency interval in a telecommunication signal, said apparatus comprising:

an analyzer for detecting an occurrence of said constant frequency interval in said telecommunication signal;

a noise-reducing filter unit for obtaining a plurality of noise-reduced signal values by a noise-reducing

processing of at least a part of said constant frequency interval in said telecommunication signal;

a coefficient generator using said noise-reduced signal values for adapting a filter to the frequency of said constant frequency interval;

said filter filtering said telecommunication signal for generating filtered output values; and

a position detector for determining a predefined reference point of said constant frequency interval on the basis of said filtered output values.

10. The apparatus of claim 9, wherein the apparatus is a mobile telephone.

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